

FORMATION OF AN SAB PANEL TO CONDUCT  
AN INTERIM REVIEW OF EPA'S PARTICULAR MATTER (PM) RESEARCH CENTERS

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A. Introduction and Instructions

In a 2001 notice in the Federal Register (FR) [Federal Register: October 10, 2001 (Volume 66, Number 196), Page 51661-51662], the SAB announced its intent to form a panel to conduct an interim review of EPA's particular matter (PM) research centers. (See the Charge below.) The notice solicited suggestions for potential candidates from the public. A combined list of nearly 50 candidates was compiled from various sources, including those submitted in response to the FR notice.

In consultation with the SAB leadership, the SAB Staff Director appointed Dr. Daniel Greenbaum, President of the Health Effects Institute to chair the panel.

Based upon their interest and availability to attend the meeting on Feb. 11-12 in Washington, 14 additional candidates are on the "short list" from which a final panel of 8-12 members will be selected. .

The SAB Staff Director invites comments from the public that would help to inform his final selection. By way of background, a short "biosketch" for each of the candidates has been developed (see below) that seeks to convey publicly available information on the following topics:

- a. Current position
- b. Area of research activities
- c. Service on other advisory committees, especially those associated with PM Centers.
- d. Educational background
- e. Sources of recent grant and/or contract support

**Public comments should be submitted to Ms. Diana Pozun ([pozun.diana@epa.gov](mailto:pozun.diana@epa.gov)) and Dr. Donald Barnes ([barnes.don@epa.gov](mailto:barnes.don@epa.gov)) by Friday, January 18.** The final selection will be made during the following week, taking into account comments and other data including a full curriculum vitae, a Confidential Financial Statement (Office of Government Ethics form 450), and input from SAB members

## B. The Charge to the Panel

1. Recognizing the PM Centers program is barely at its halfway point, what important research findings (or promising investigations) have been made that would not have occurred otherwise? What unique aspect(s) of a Centers program enabled such actions to be taken?
2. To what extent has the direction or focus of research shifted as a result of the multi-disciplinary interactions within the Center (i.e., findings in one department influence researchers in another to change direction or emphasis)? To what extent have changes in research direction or emphasis been influenced by Science Advisory Committee reviews, interactions with other PM Centers, or interactions with the broader PM research community? Which factors have been most influential?
3. How successful are Centers in communicating their findings to the public and specifically, to those who directly use their research? Is it clear that the work has been supported by the PM Centers program?
4. How, if at all, does a PM research centers program facilitate agreement or consensus on protocols or procedures to enable more direct comparison of results among research institutions or centers?
5. How, if at all, does a PM research centers program leverage or maximize use of resources through sharing expensive equipment, samples, data, etc.?
6. How is the program perceived within and outside the research community? Does a research center have greater visibility, and if so, what is the impact?

## **C. BIOSKETCHES FOR THE PM CENTERS INTERIM REVIEW PANEL**

### **CHAIR**

**Mr. Daniel S. Greenbaum**

**Mr. Daniel S. Greenbaum**, who will serve as Chair of the PM Centers Interim Review Panel, is president and chief executive officer of the Health Effects Institute (HEI), an independent research institute funded jointly by government and industry to provide impartial and relevant research on the health effects of air pollution. During his eight year tenure at HEI, he has overseen the development and implementation of a research plan that focuses the Institute's efforts on providing critical research and reanalysis on particulate matter, air toxics, and alternative fuels. His publications include work on the epidemiology of particulate air pollution. His experience prior to joining the Health Effects Institute includes service as the Commissioner of the Massachusetts Department of Environmental Protection and with the Massachusetts Audubon Society. He currently serves on the National Research Council Committee on Research Priorities for Airborne Particulate Matter. In 1999, he chaired an advisory committee to the U.S. Environmental Protection Agency that addressed the risks and benefits of reformulated gasoline. He received both his undergraduate and Master's degrees in urban planning from the Massachusetts Institute of Technology.

### **CANDIDATES**

**Dr. Michael Brauer**  
**Dr. Bert Brunekreef**  
**Dr. Carol Henry**  
**Dr. Kenneth Donaldson**  
**Dr. Philip K. Hopke**  
**Dr. Patrick L. Kinney**  
**Dr. Brian Leaderer**  
**Dr. Paul Liroy**  
**Dr. George Malindzak**  
**Dr. Robert Michaels**  
**Dr. Maria T. Morandi**  
**Dr. Shankar B. Prasad**  
**Mr. Ron White**  
**Dr. Ron Wyzga**

**Dr. Michael Brauer** holds a joint appointment as Associate Professor in the School of Occupational and Environmental Hygiene and the Respiratory Division of the Department of Medicine at the University of British Columbia where he has served since 1991. His research interests include a focus on particulate air pollution epidemiology and exposure assessment, as well as exposure and health effects of ozone and nitrogen dioxide. He is a member of several major advisory committees including the (US/Canada) International Joint Commission Air Quality Advisory Board and the Science Advisory Panel of the US National Urban Air Toxics Research (Mickey Leland) Center. His work has involved

him in international collaborations in several countries including the U.S., Slovakia, Mexico and Malaysia.. He received his ScD degree in environmental health from the School of Public Health at Harvard and his double major undergraduate degree biochemistry and environmental sciences from University of California-Berkeley.

Over the past decade research support sources have included the following: the American Lung Association, British Columbia Lung Association, Health-Canada, and the Medical Research Council of Canada.

**Dr. Bert Brunekreef** is full Professor of Environmental Epidemiology in the newly formed Institute for Risk Assessment Sciences (IRAS) at the Utrecht University in the Netherlands. He has served as national project leader or international coordinator on several European Union (EU)-funded studies, including a study of the effects of air pollution on the airways of asthmatic children in which he coordinated the efforts of 14 different research centers in Europe, five of which were in Central and Eastern Europe. His work can be found in some 190 peer reviewed journal articles in the field of environmental epidemiology and exposure assessment. He is completing his term as President of the International Society for Environmental Epidemiology for the years 2000-2001. Dr. Brunekreef received his degree from the Wageningen University Environmental Sciences programme, having specialized in air pollution and environmental health.

Dr. Brunekreef is a member of the Advisory Committee of the Harvard PM Center.

Over the past decade research support sources have included the following: the Dutch Ministry of Health, the Dutch Ministry of Environment, the European Union, and the Health Effects Institute

Since May, 1999 **Dr. Carol Henry** has been Vice President for Science and Research at the American Chemistry Council (ACC) (formerly the Chemical Manufacturers Association). She directs and manages the ACC's \$25 million dollar per year Long-Range Research Initiative (LRI) that is designed to study the potential impacts of chemicals on health and the environment. She served as director of the Health and Environmental Sciences Department of the American Petroleum Institute (API) and as API's chief scientist for two years, following five years of public service, as Associate Deputy Assistant Secretary for Science and Risk Policy at the U.S. Department of Energy, and as director of the Office of Environmental Health Hazard Assessment at the California Environmental Protection Agency. Prior to that appointment, she was Executive Director of the International Life Sciences Institute's Risk Science Institute. She has served on advisory bodies for the National Research Council, the Institute of Medicine, the National Institute of Environmental Health Sciences and the USEPA. Dr. Henry earned her undergraduate degree in chemistry from the University of Minnesota and her doctorate in microbiology from the University of Pittsburgh, followed by postdoctoral fellowships in biochemistry at the Max Planck Institute in Germany, in biology at Princeton University, and biochemistry/cancer research at the Sloan Kettering Institute. She is a diplomate of the American Board of Toxicology and is a past president of the American College of Toxicology.

**Dr. Kenneth Donaldson** is Professor and Research Director of the Biomedicine Research Group in the School of Life Sciences at The Napier University. His research has been directed toward understanding the response of the lung to environmental pollutants, especially particles and their role in

the development of pathological and functional changes in the lung. His list of publications includes work on a) the particle characteristics that drive the pathogenic response and b) the cellular and molecular mechanisms of the tissue response. He has served as a consultant to the British Petroleum, Health Effects Institute, the International Agency for Research on Cancer, the International Minerals Association, the Medical Research Council, the Norwegian State Oil Company, UK and US oil additive companies, the U.S. Environmental Protection Agency, and the World Health Organization. He received his bachelor's degree in biology from the University of Stirling and his doctorate in immunology from the University of Edinburgh, which later awarded him a Doctor of Science degree, based on his research on the toxicology of particles. He is also Fellow of the Faculty of Occupational Medicine, Fellow of the Royal College of Pathologists, and Fellow of the Institute of Biology, and Registrant of the British Toxicology Society/Institute of Biology Register of Toxicologists.

Funding for his research comes from the British Lung Foundation; the British Occupational Health Research Foundation; the Colt Foundation; the Cunningham Trust; the Department of Environment, Transport, and the Regions; the European Union 5<sup>th</sup> Framework; the Medical Research Council; the Medical Research Council's Institute of Environment and Health; the Scottish office; and SMB Pharmaceuticals (Belgium).

**Dr. Philip K. Hopke** is the Bayard D. Clarkson at Clarkson University where he teaches in the Chemical Engineering and Chemistry programs. His research has covered many areas of air pollution including particulate matter, aerosols, radionuclides including radon, monitoring modeling, and data analysis/quality. He has served on numerous committees of the National Research Council, the American Chemical Society, and the USEPA. He has (co-)authored more than 200 peer-reviewed articles and delivered more than 300 addresses at professional meetings around the world. For the past decade he has served as Editor-in-Chief of "Aerosol Science & Technology". Dr. Hopke earned his undergraduate degree in chemistry from Trinity College in Hartford and master's and doctor's degrees in chemistry from Princeton.

Over the past decade Dr. Hopke's research has been funded by Aerovironment Inc., California Air Resources Board, Center for Indoor Air Research, Eastman Kodak and the NY State Science Technology Foundation, Commission of the European Communities, Cooperative Institute for Arctic Research, Electric Power Research Institute, International Atomic Energy Agency, International Business Machine, National Science Foundation, New Jersey Department of Environmental Conservation, New Jersey Department of Environmental Protection, New York State Energy Research and Development Authority, Ontario Ministry of the Environment, Southern Companies, Unilever Research USA Inc., US Department of Energy, and the US Environmental Protection Agency. During this period he has also served as a consultant to Atmospheric Environment and Research Inc., Consultec Scientific Inc, International Atomic Energy Agency, Gradient Scientific, R.J. Lee Group, SC&A, and the US Environmental Protection Agency

**Dr. Patrick L. Kinney** is Associate Professor in the Division of Environmental Health Sciences at the Columbia School of Public Health in New York. He has applied his training in epidemiology to indoor and outdoor air concerns, including those of pregnant women and asthmatic children. Current research interests include modeling of heat and air called quality of changing urban land uses and climate, indoor allergen exposures, urban air toxics of high school students, and the health

effects of polycyclic aromatic hydrocarbons and environmental tobacco smoke in minority women and newborns in He served on the National Research Council/Institute of Medicine panel that issued a report on indoor air pollution and asthma in 2000.

Dr. Kinney's research is currently supported by the Agency for Toxic Substances Disease Registry (ATSDR) , National Institute for Environmental Health Sciences, National Institutes of Health, the National Urban Air Toxics Research Center, and the U.S. Environmental Protection Agency. He has had paid and/or unpaid consulting relationships with ATSDR, Community-University Consortium for Regional Environmental Justice, El Puente Academy (Brooklyn), Health Effects Institute, Health-Canada, Hong Kong University of Science and Technology, New York City Environmental Justice Alliance, Northeast States for Coordinated Air Use Management (Boston), UN Gulf War Reparations Fund, and West Harlem Environmental Action Inc.

**Dr. Brian Leaderer** is the Susan Dwight Bless professor of Public Health and Acting Deputy Dean of the Department of Epidemiology and Public Health at Yale University. His research is found in 140 published papers in the peer-reviewed literature and has recently focused on particulate matter and other factors associated with human health (including childhood asthma and effects in pregnant women) in the United States and countries in Latin America. He has served on advisory bodies to such institutions as the National Research Council, the World Health Organization, the Health Effects Institute, the Mickey Leland National Urban Air Toxic Research Center, the National Institute of Allergy and Infectious Diseases, and the U.S. Environmental Protection Agency. He received his undergraduate degrees in engineering from Manhattan College and his Master's and Doctorate degrees from Yale University.

Dr. Leaderer is a member of the Advisory Committee of the New York University PM Center.

Dr. Leaderer's funding in recent years has been derived from grants and contracts from the USEPA, the National Institute of Standards and Technology, the National Institute of Environmental Health Sciences, American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.(ASHRAE), National Institute on Drug Abuse (NIAD), and the Electric Power Research Institute (EPRI). He has grant application pending at the Robert Wood Johnson Foundation and the National Institutes of Health.

**Dr. Paul Liroy** holds joint appointments as Professor in the Department of Environmental and Community Medicine at the University of Medicine and Dentistry of New Jersey (UMDNJ)-Robert Wood Johnson Medical School and in the UMDNJ School of Public Health. He is on the graduate faculty of the Department of Environmental Science, the Public Health Program, and the Toxicology Program at Rutgers University. His wide-ranging research interests include exposure assessment to pollutants, such as particulate matter in urban, rural and occupational settings, including exposure modeling and measurement. His work has been recognized by his election to the International Academy of Indoor Air Sciences and to the Collegium Ramazzini and his receipt of the Wesoloski Award for Lifetime Achievement in Human Exposure Research. His current advisory activities include service to the National Research Council, the Committee on NJ Southdown Quarry Exposure/Risk Assessment, the Science Advisory Board of the European-EXPOLIS (Air Pollution Exposure Distribution of Adult Population in Europe), International Joint Commission-Board on Air Quality, the Technical Advisory Committee on Aggregate Exposure and Risk of the Hampshire Research Institute,

and the Science Advisory Board of the U.S. Environmental Protection Agency (USEPA). He received his undergraduate training in physics and education at Montclair State College, a Master's degree in physics and applied mathematics from Auburn University, and a Master's and Doctorate in Environmental Science from Rutgers University.

Dr. Lioy is a member of the Advisory Committee of the Harvard University PM Center.

Dr. Lioy's funding sources over the past five years include American Petroleum Institute, ARCO, Dow Agro Sciences, National Cancer Institute, National Institute of Environmental Health Sciences, New Jersey Department of Environmental Protection, New Jersey Department of Health and the Agency for Toxic Substances Disease Registry, U.S. Department of Energy, U.S. Department of Housing and Urban Development, and USEPA. He has provided litigation, analysis, and intervention consulting services on environmental health and exposure to single and multi-media pollutants at hazardous waste sites and in other environmental situations, both outdoors and residential.

**Dr. George Malindzak** has recently retired Health Science Administrator, Branch Chief, National Institute of Environmental Health Sciences, a post that he occupied for twelve years. His duties included managing the environmental research portfolio at the NIEHS, which included indoor and outdoor environmental contaminants. His research interests include asthma and the inner-city, cardiopulmonary toxicology, and cardiopulmonary function and environmental toxicology. During his career, he has generated hundreds of published papers and presentations at international meetings. Most recently he has chaired sessions in Finland, Canada, and Scotland, as well as the United States. He received his undergraduate education in chemistry and biology at Western Reserve University, and a Master's and Doctorate in physiology and biophysics from Ohio State University.

**Dr. Robert Michaels** is an ABCEP Board Certified Environmental Assessor and president of RAM TRAC Corp., a consulting firm advising public interest, corporate, and government clients on toxicology and health risk assessment. Much of his professional writing has focused on particulate matter (PM) measurement, PM health risks, and policy implications for managing PM health risks. A former toxicologist with the Natural Resources Defense Council, Dr. Michaels's work includes evaluating concerns about existing or proposed facilities and/or exposures to potentially health-significant emissions from such facilities. He serves as Chair of the Certification Review Board of the Academy of Board Certified Environmental Professionals (ABCEP), and is a member of the Society for Risk Analysis (SRA), Society of Toxicology (SOT), New York Academy of Sciences, and Board of Directors of NAEP (National Association of Environmental Professionals). Dr. Michaels received his BS in Biology from CCNY in 1967, his MS in Ecology from the University of Georgia in 1971, and his doctorate in Environmental Toxicology from the State University of New York at Stony Brook in 1979.

**Dr. Maria T. Morandi** is Assistant Professor of Environmental Sciences in the School of Public Health at the Houston Health Science Center. Her research has included work on aspects of indoor and outdoor air pollution, including particulate matter. She has served on advisory committees to the Agency for Toxic Substance Disease Registry, the America Lung Association, the National Institute of Occupational Safety and Health (NIOSH), and the U.S. Environmental Protection Agency (USEPA). She received her undergraduate degree in chemistry from the City College of New York and her

Master's and Doctorate in Environmental Health from the New York University Medical Center's Institute of Environmental Medicine. She is also a certified industrial hygienist (C.I.H).

Dr. Morandi recent sources for research funding have included the Health Effects Institute, Mickey Leland National Urban Air Toxics Research Center, National Institutes of Environmental Health Sciences, National Institutes of Health, NIOSH, Southwest Center for Occupational and Environmental Health, Texas Children's Hospital, and USEPA.

**Dr. Shankar B. Prasad** has been Community Health Advisor to the Chair of the California Air Resources Board for the past two years. In that capacity, he addresses community and environmental justice concerns associated with local source of air emissions. Prior to taking his current position, he served as Health Effects Officer in the South Coast Air Quality Management District where he evaluated health effects air pollutants, primarily in the urban air. He received his MBBS degree (cf. a US M.D. degree) from Bangalore University in India.

**Mr. Ron White** has been the Assistant Executive Director for Education, Research, and Community Affairs for the National Osteoporosis Foundation since April 2001. For the eighteen years prior to assuming that position he was employed by the American Lung Association, rising to become Assistant Vice-President for National Policy before assuming his current position. He serves as a member of the National Research Council Committee on Research Priorities for Airborne Particulate Matter that published two volumes on particulate matter research in 1998 and 1999. He also serves on the External Scientific Advisory Committee of the National Environmental Respiratory Center and is a consultant to the Clean Air Scientific Advisory Committee of the U.S. Environmental Protection Agency for the current PM NAAQS review. Mr. White earned an undergraduate degree from Clark University and Master of Science in Teaching (Environmental Studies) degree from the Antioch University Graduate School.

Mr. White has also been a member of the Advisory Committees of the University of Rochester and the Southern California Particle Center and Supersite (SCPCS) PM Centers.

**Dr. Ron Wyzga** is Technical Executive, Air Quality Health and Risk, the Electric Power Research Institute (EPRI). His publications in the scientific literature have focused on health effects posed by air pollution. He is a member of the National Research Council's Committee on Research Priorities for Airborne Particulate Matter and a member of the External Scientific Advisory Committee for the National Environmental Respiratory Center at Lovelace, NM. In addition, he serves on the Scientific Advisory Committees of three of the USEPA PM Research Centers; i.e., Harvard School of Public Health, U of Rochester, and New York University. Dr. Wyzga received his bachelor's degree in mathematics from Harvard, his Master's in statistics from Florida State University, and his Doctor of Science degree biostatistics from Harvard University.